

# Dames and Moore Liquefaction Model Example Problem

September 22, 2015

- 15 m high dike constructed of loose sand,  $(N^1)_{60cs} = 15$
- Example illustrates basic operation of model, input parameters and modeling procedure

# ***FLAC3D 5.01***


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## **ZGroup**

Group Slot: Any

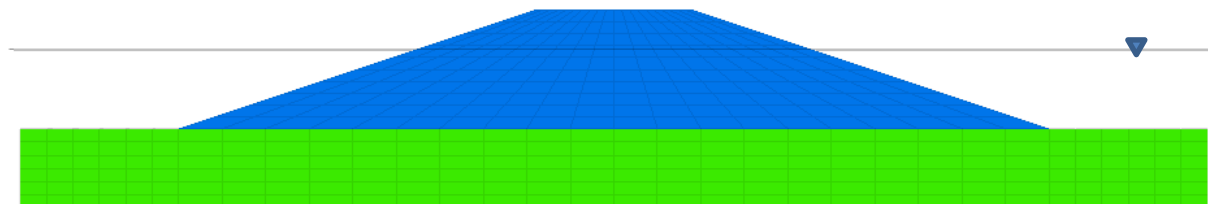
 Dense\_Sand

 Loose\_Fill

## **Geometry**

 Polygon

## Model Geometry



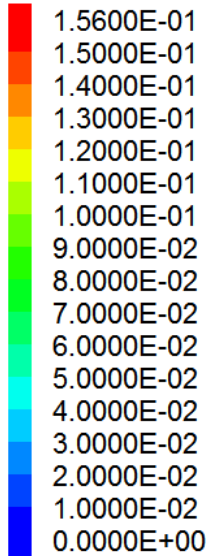
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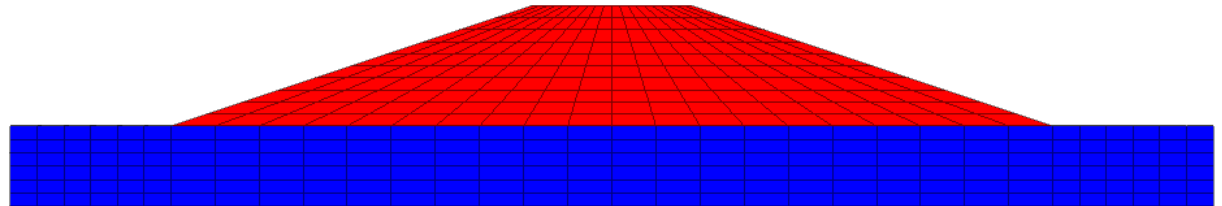
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## ColorScale of Property crr\_15



## Cyclic Resistance Ratio $CRR_{15}$



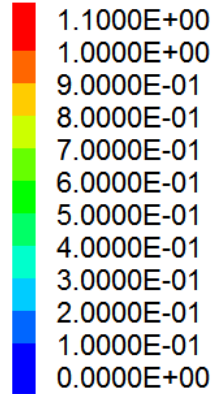
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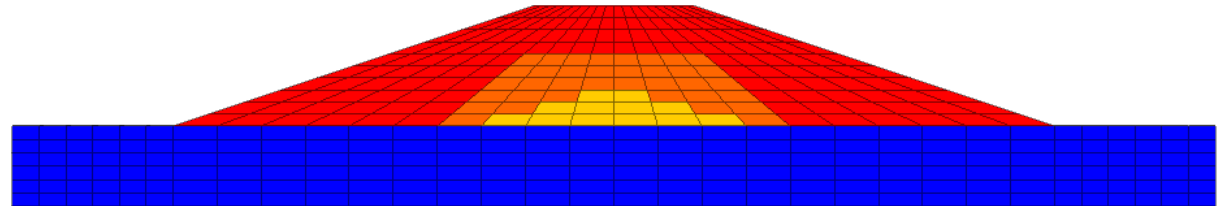
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## ColorScale of Property k\_sigma



## Overburden Correction Factor k\_sigma



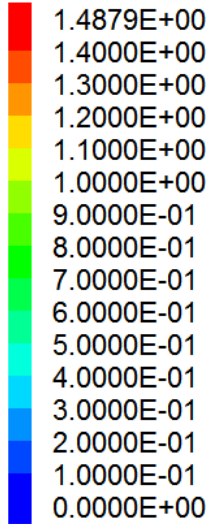
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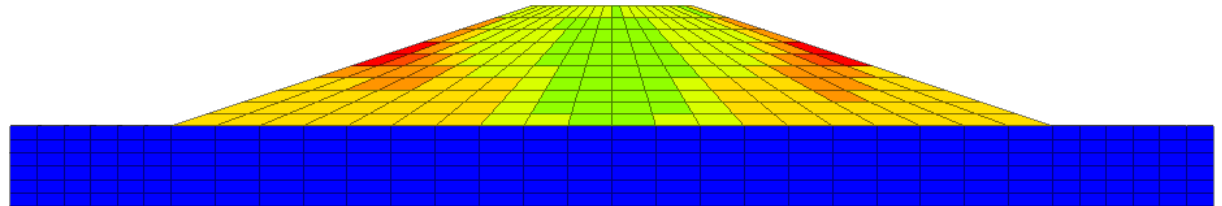
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## ColorScale of Property $k_{\alpha}$



## Static Stress Ratio Correction Factor $k_{\alpha}$



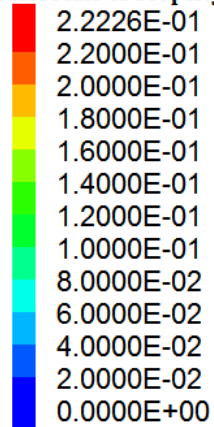
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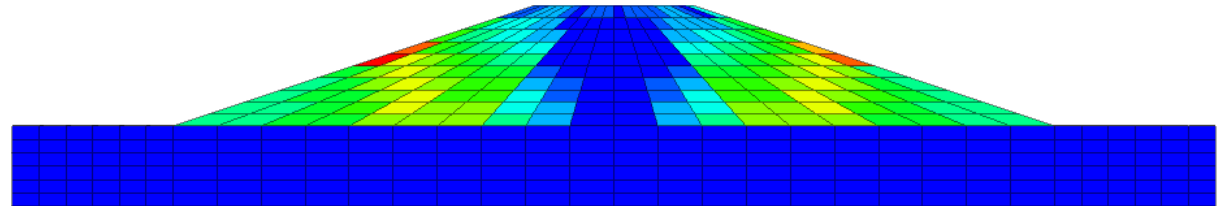
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ColorScale of Property static\_stress\_ratio



## Static Stress Ratio, alpha



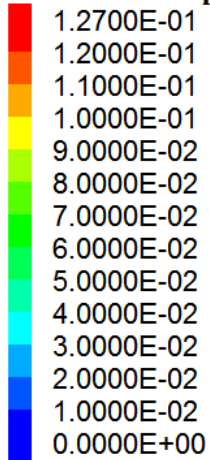
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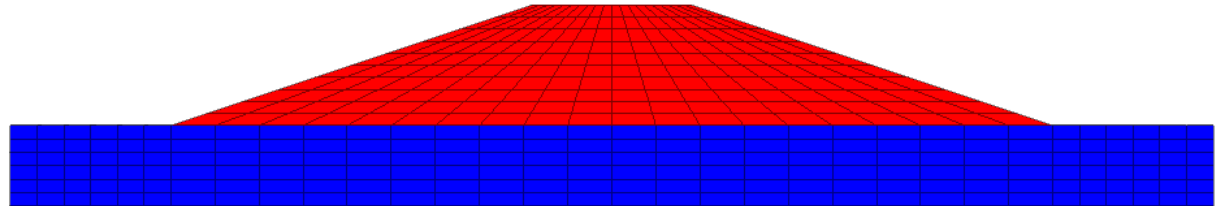
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## ColorScale of Property resid\_ratio



## Residual Strength Ratio



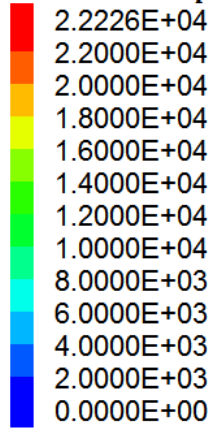
# FLAC3D 5.01

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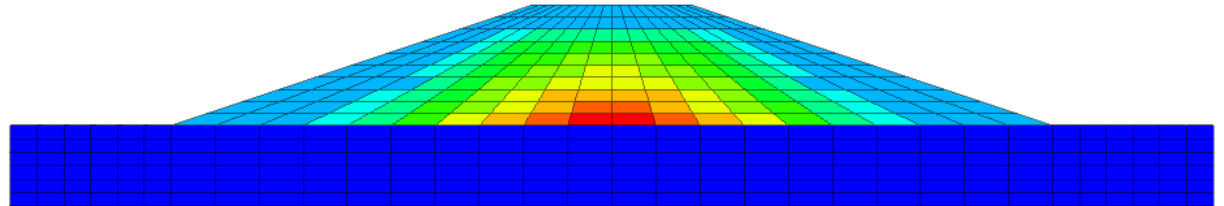
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ColorScale of Property resid\_strength



## Residual Strength (Pa)





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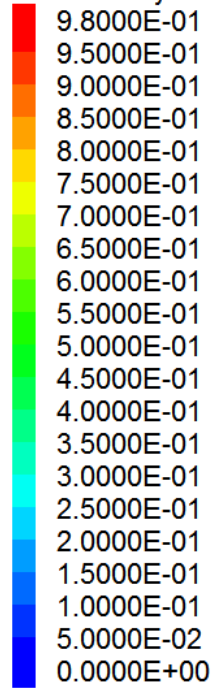
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## Contour of Property pp\_ratio

Calculated by: Volumetric Averaging



## Pore Pressure Ratio after Shaking

